SyAM Software

System Client

V4.43

User Manual

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Introduction

SyAM Software provides a comprehensive, simple to use set of system management products for servers, desktops and notebooks. Each product has features specific to their relevant system's capabilities and functions, as well as a large number of common features. Their user interfaces are identical.
The products enable several IT benefits. Among them are predictive alerting to pending failures, system configuration, unattended monitoring and alerting, remote management, and reporting. The products dynamically discover the hardware and software operating environment, and manage all physical environmental sensors available and operating system resources. Users can view them and be alerted if they exceed their thresholds.

There are two levels of system management. System Client software provides a single system view. System Area Manager software provides a unified view of all of your systems, and also provides more comprehensive features.

The System Client products are:

- *Server System Client*
- *Desktop System Client*
- *Notebook System Client*

The Central Management product is:

- *System Area Manager*

This user manual describes the System Client software. The following sections will describe the product differences, functions of the System Client software, and highlight areas of additional functionality available through the System Area Manager software.

SyAM Software Modules

System Client software contains three products;

- **Server System Client** - Used for server platforms running server operating systems and RAID storage
- **Desktop System Client** - Used for desktop/workstation platforms
- **Notebook System Client** – Used for notebook computer's that are on and off the network and may have hardware or software changes made while off site.

These products can be installed on any Intel architecture x86/x64 platform running one of the supported operating systems.

Compatibility

Operating System	***Server System Client***	***Desktop System Client***	***Notebook System Client***
Windows 2008R2 Server	■		
Windows 2008 Server	■		
Windows 2003 Server	■		
Windows 2000 Server (SP3 or above)	■		
Windows 7 Professional	■	■	■
Windows Vista Business	■	■	■
Windows XP Professional	■	■	■
Windows 2000 Professional (SP3 or above)	■	■	■
Redhat Enterprise Server 4, 5	■		
Redhat Workstation 4	■	■	■
Redhat Desktop 9	■	■	■
SuSE Enterprise Server 9, 10	■		
SuSE Professional 9.2	■	■	■
Novell Linux Desktop 9	■	■	■
Fedora Core 8	■	■	■

Linux x64 Operating System Requirements

If you are running Red Hat or Fedora Core x64 Linux distribution, you must load the Compatibility Arch Support (Multi lib Support Packages). To check if this is loaded look in: system settings, add/remove applications and scroll to the bottom to verify that this package is installed. If not please install it.

System Requirements

- 160MB Disk space
- 256MB Memory

Browser Requirements

- Internet Explorer 6+ (Service Pack 1)
- Mozilla Firefox (V1.0.x or above)

Deployment Options

During installation you are presented two options of deployment;

- Local – This installs SyAM's web server and management agent, which enables you to manage the system directly via a web browser. You may also manage the system via the system running the System Area Manager software.
- Agent – This does not install SyAM's web server, it installs the management agent only. In this case the system is only going to be managed via the system running the System Area Manager software.

Administrator's use Internet Explorer or Firefox to browse to the System Client interface of the system being managed
Server running Server System Client
Desktop running Desktop System Client
Notebook running Notebook System Client
Agents send event notification messages to administrators via email

Figure 1: Individual systems being managed via the SyAM Local Interface

Administrator's use Internet Explorer or Firefox to browse to the System Area Manager interface to manage all systems
Servers running Server System Client
Desktops running Desktop System Client
Notebooks running Notebook System Client
Agents send event notification messages to administrators via email, SMS/Pager, network message, SNMP trap, System Event Log or event to the System Area Manager

Figure 2: Multiple systems being managed by System Area Manager software.

Chapter 1: Installation and Configuration

This chapter provides step-by-step installation and configuration instructions for System Client software on Windows and Linux Operating System Platforms

It is recommended that you print off the quick start guide before installing the software too. This simple document will step you through installation and email configuration in a few minutes.

Installation Instructions – Windows

1. Either load the SyAM Software CD and from the menu choose the product version you wish to install, or double click the downloaded SyAM executable. Then just follow the Install Wizard instructions.
2. Choose the language of the user interface.
3. Choose the destination folder (This can not contain any spaces in the name)
4. Choose either the Local or Agent installation. (default=Local)
5. To enable security through 128-bit data encryption from SyAM Server Web Server to the browser, choose the SSL option. (default=No)
6. *After the installation has finished, the SyAM services will start and dynamically discover and configure your system's monitoring environment.*

Installation Instructions – Linux

1. *Download the required product version or copy it from the SyAM Software CD, to the Linux system.*
2. Extract the files and change permission to execute the files
3. Enter ./install – then follow the on screen instructions
4. Choose the language of the user interface.
5. Choose the destination folder (This can not contain any spaces in the name)
6. Choose either the Local or Agent installation. (default=Local)
7. To enable security through 128-bit data encryption from SyAM Server Web Server to the browser, choose the SSL option. (default=No)
8. *After the installation has finished, the SyAM services will start and dynamically discover and configure your system's monitoring environment.*

Firewall Security

The following ports must be opened if you are using a firewall on your Linux system. They are automatically opened on Windows systems.

- 3894 – Used for agent management service
- 3930 – Used for web server if installed
- 5800 – Used for Remote Console access from System Area Manager
- 5900 – Used for Remote Console access from System Area Manager

Uninstalling SyAM (Windows)

To remove the SyAM software from the windows system:

1. On the start menu, select <Settings> <Control Panel> <Add/Remove Programs>
2. Highlight SyAM and select <Remove>. You will be prompted to confirm this action.
3. Following removal, if SyAM software is to be reinstalled then a system restart is required.

Uninstalling SyAM (Linux)

To remove the SyAM software from the Linux system:

1. Go to the top-level directory where the SyAM software was installed.
2. ./uninstall

The software will be uninstalled.

Chapter 2: Logging In

This chapter provides details on logging into the SyAM User Interface

Browsing to the SyAM Web Server

Open a supported web browser on any system and access the SyAM user interface on any system with the System Client software web server installed. Then enter:

http://IPADDRESS or the MACHINENAME:3930

Example http://192.168.1.19:3930

Example http://FILESEVER1:3930/

If you enabled SSL during installation, you are required to type "https" instead of "http":

Example: https://IPADDRESS or https://MACHINENAME:3930

This will bring you to the log in screen.

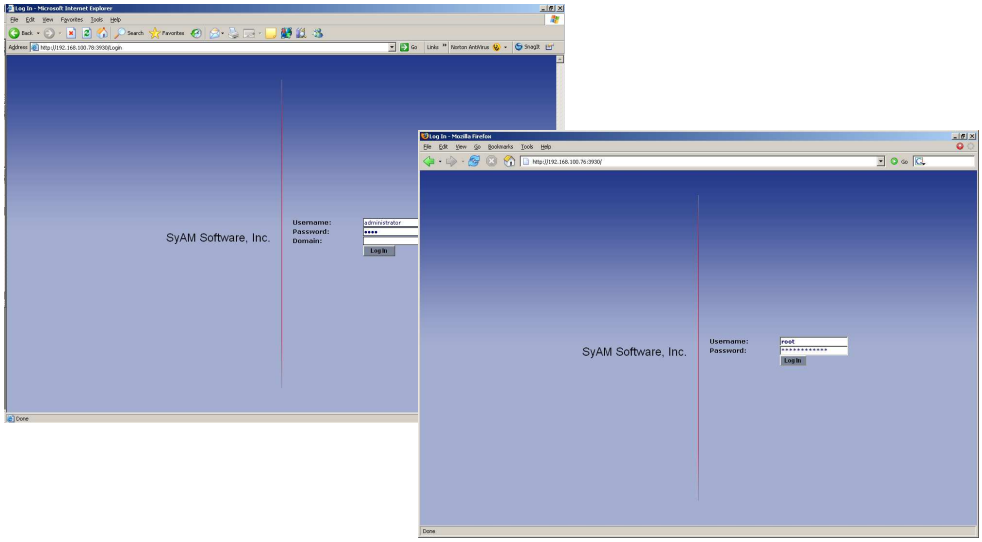


Figure 3: Windows and Linux Login Screens

The SyAM web server does not maintain its own separate set of users and passwords. It requests the operating system to log you in, so uses the accounts that are already in place on your system. To login you must satisfy the following conditions:

For Standalone systems (not in a Windows Domain)

- The User name and Password must be valid on the system you are logging into.
- The User must have Administrator rights on the system.

For systems within a Windows Domain

- The User name and Password must be valid in the Domain.
- The User must have "Domain Admin" rights within the Windows Domain
- A Valid Domain Name for the system must be entered in the Domain field.

For Linux systems

- The User name and Password must be valid on the system you are logging into.

Ending the Session

When you have completed your management session, choose the Log Out button on the main header bar. Successful logout returns you to the login screen:

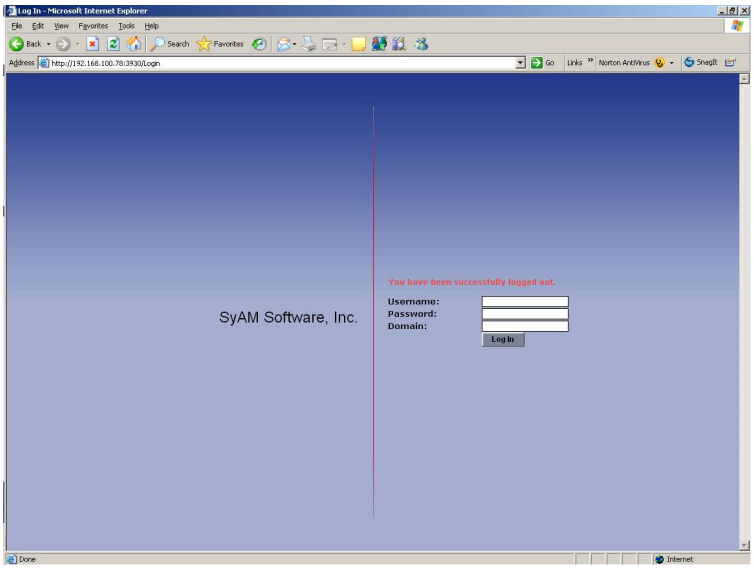


Figure 4: Successful Logout

For added security you will be logged out automatically after 30 minutes of inactivity. A message box will appear on screen if you are using Internet Explorer to let you know that you need to log back in. If you are using a Firefox browser you will be logged out and put back to the login screen.

Chapter 3: The SyAM User Interface

This chapter describes how to use the System Client software. It also points out some advanced features that are available in the System Area Manager products.

The SyAM User Interface

System Client software provides administrators with the ability to view the system's current configuration and the status of the monitored sensors and resources. Additionally, the administrator can configure email notification settings.

Interface Layout

The structure of the interfaces is common whether you are viewing a Server/Desktop/Notebook System Client. The system being monitored is represented in the tree on the left hand side and the detailed information being accessed in presented on the main right hand side. Because System Client management software provides a single system view, there is only a single system in the tree. System Area Manager software displays many systems in the tree.

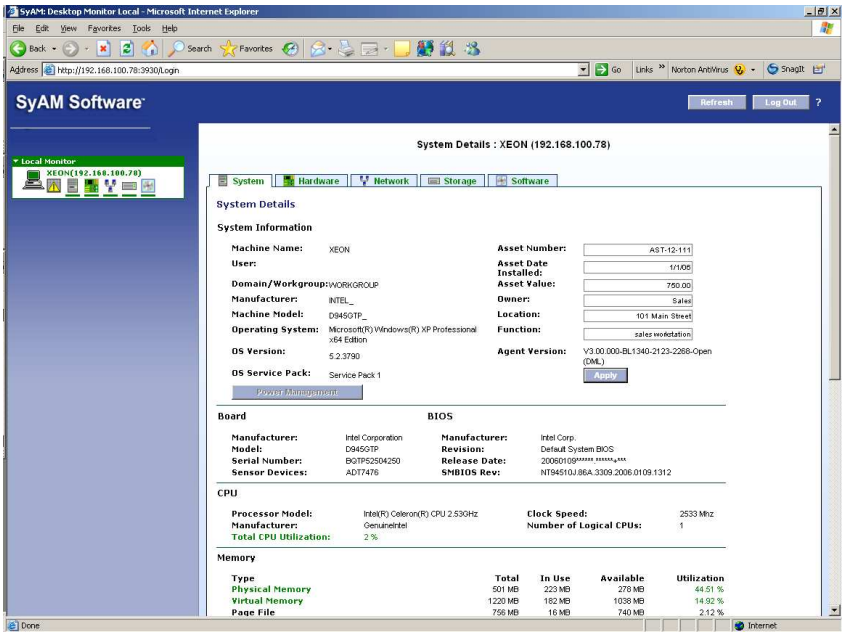


Figure 5: System Client User Interface Layout

Header Bar

The header bar has three function buttons – Refresh, Log out and Online Help.

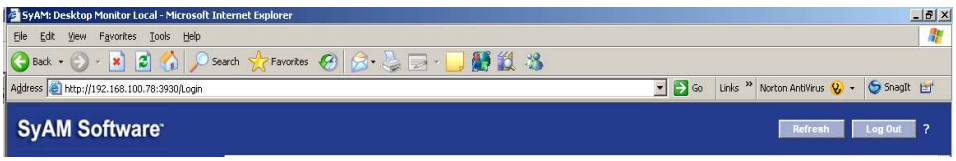


Figure 6: Header Bar

Health Colors

In order to quickly identify and correct system problems, SyAM software uses a consistent color scheme to represent the health and functionality of systems and their components. These colors can be seen in every level of monitoring, from the instance of the component to the component category and section.. The health of each monitored system is updated on a regular interval. Any change in the status of the system will cause a change in the health color. The health color will remain in the changed state until the issue is resolved.

	Green = Fully Functional
	Amber = Warning
	Red = Critical
	Grey = System state pending, currently unknown
	Purple = System is no longer responding
	Blue = Agent service has been manually shutdown
	Black = System has been shutdown
	Brown = System has been suspended

Figure 7: SyAM Health State Colors

Icons

There are three icons that represent the type of SyAM software running on the managed system.

Server System Client/System Area Manager

Desktop System Client

Notebook System Client

Management Tree

Figure 8: Tree Expanded to Display Monitored Sections

Tree Icons

	System Alert Matrix – Provides access to the thresholds, sample,reset periods and notification options for all of the monitored hardware and software sensors within the system
	System – Provides system board, memory, CPU, slot, display, port information and status of the CPU and Memory utilization being monitored, in addition memory error information is displayed.
	Hardware – Provides sensor information and current status on physical sensors being monitored within the system
	Network – Provides network adapter configuration information and performance for all configured adapters within the system
	Storage – Provides physical storage device, storage controller, logical device information and health status for the storage devices and managed RAID controllers.
	Software – Provides information on OS services, processes, and installed applications. Also provides remote and process management.

System Detail Tab

The System Tab displays detailed information on the system's configuration, including BIOS, vendor information, operating system, location, machine name, function, memory and CPU utilization, etc. Administrators can choose to enter additional system information by filling in the fields at the top of the screen. The system's power management policies can be viewed and re-configured remotely by clicking on the Power Management button.

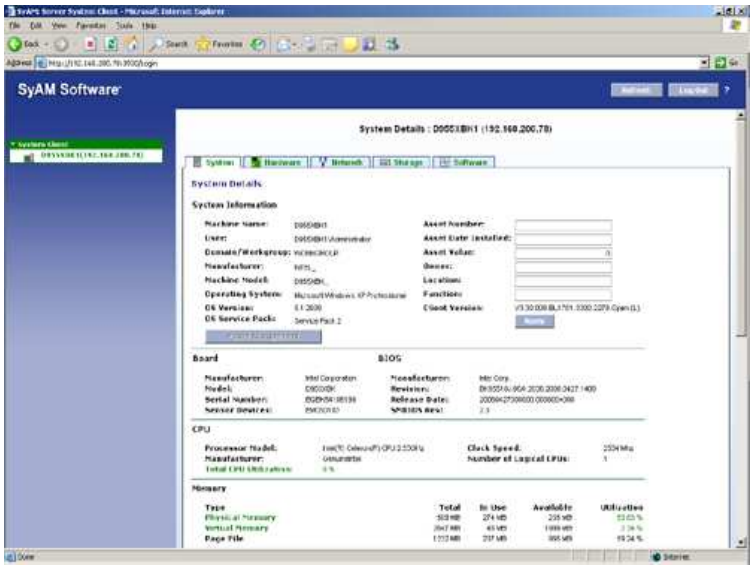


Figure 9: System Detail Tab

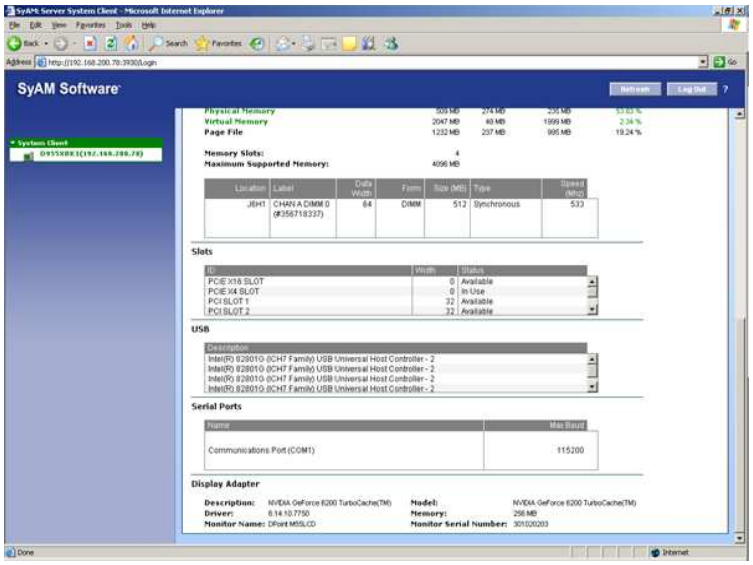


Figure 10: System Detail Tab Continued

Monitoring Memory Errors

SyAM provides real time monitoring and alerting of single- and multi-bit memory errors on systems with supported ECC Memory error monitoring.

The default alerting thresholds are to notify the administrator immediately on a multi-bit error or when two single-bit errors occur within a day.

Through the System Area Manager the administrator can adjust the thresholds and polling interval periods for both single- and multi-bit errors, and configure their notification methods.

Power Management Tab

(This feature is only available through the System Area Manager)

The Power Management tab lets the user display and reconfigure the power management policies for the managed system

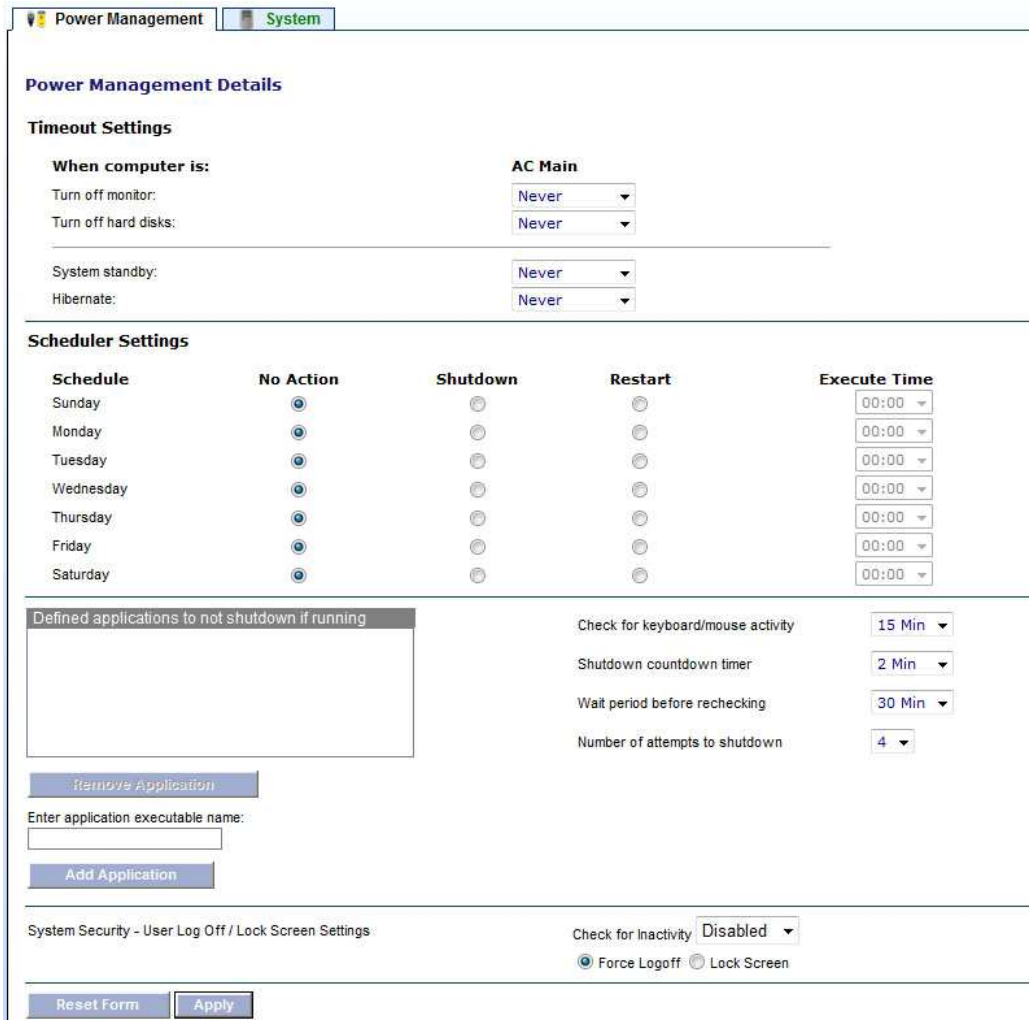


Figure 11: Power Management Tab

Timeout Settings

From here you can configure the power scheme settings for the managed system. If the managed system is a notebook there will be two separate sets of settings: one set that will be applied when connected to AC Power, and the other set for when running on battery.

The options are;

- Turn off monitor
- Turn off hard disks
- System standby
- Hibernate – This will only be displayed if the system has hibernation enabled

Battery

This information is only displayed if the managed system is a notebook.

- Current Power Source – States if the system is plugged in using AC Power Cord or is running from the battery
- Battery Charging – States if the battery is in a charging state.
- Battery Level – Current health state of the battery.
- Battery Charge – The % of the battery life available.

Scheduler Settings

You can configure the managed system to be scheduled to perform a graceful system shutdown or restart at any time for each of the days.

To enable, click on the appropriate radio button for the action to be taken that day. (No Action / Shutdown / Restart). Then set the time using the drop down box.

Different actions can be set at different times for each of the days of the week.

Only one action per day can be scheduled.

Press the Apply Button to save the changes made.

Defined Applications not to shutdown if running

You can enter the name of an application if found to be running it will not perform the scheduled shutdown.

To add an application, Enter the name of the application executable and press the Add Application button.

To remove an application, click on the radio button next to the application you wish to remove and press the Remove Application button.

Check for Keyboard/Mouse Activity

This is the time period that is checked before attempting to perform a scheduled shutdown.

Shutdown Countdown Timer

This is the time period that the user is presented to cancel the scheduled shutdown.

Wait Period before Rechecking

This is the time period that the agent will wait before attempting to perform the scheduled shutdown.

Number of Attempts to Shutdown

This is the number of attempts the agent will attempt to perform the scheduled shutdown for that day.

System Security – User Log Off/Lock Screen Settings

This feature is used to secure a system against unauthorized access when the user is not present. Use the drop down menu to enable the feature and select the inactivity timeout period. Then choose either to force a logoff of the currently logged-in user, or lock the screen, requiring the user to re-enter a password.

Hardware Detail Tab

All environmental sensors discovered on your platform are displayed in the Hardware Tab. This includes fans, temperatures, voltages, power redundancy loss and physical security. The number and type of sensors displayed is dependent upon the system platform and its configuration.

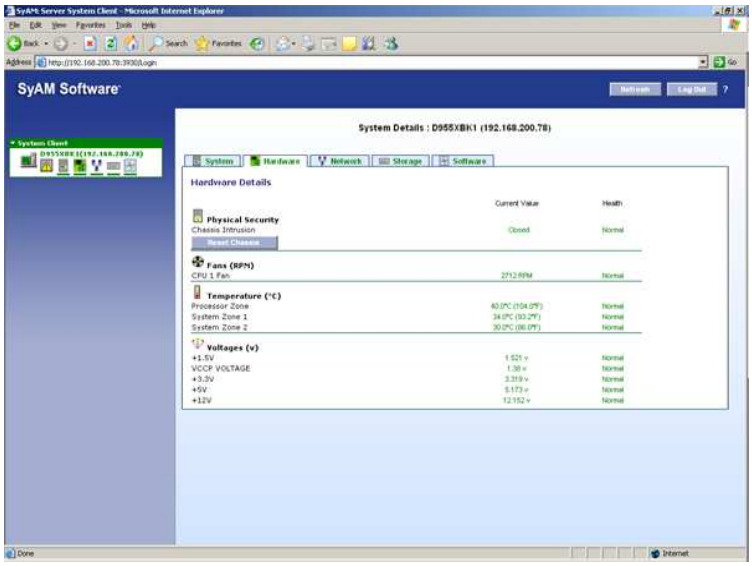


Figure 12: Hardware Detail Tab

Reset Chassis Intrusion

Some hardware platforms that support a chassis intrusion sensor, do not automatically reset the sensor state to normal when the chassis in closed. For such systems the Reset Chassis button causes the platform to reset the state of the sensor to normal.

Network Detail Tab

The Network Tab displays detailed information on adapters connecting the managed system to the network, including adapter and connection speed, connection status, IP address, and MAC address. Additionally the send and receive byte counts and calculated utilization over the last approximately 60 seconds is provided.

Figure 13: Network Detail Tab

Storage Detail Tab

The Storage Tab displays detailed information on physical and logical disks associated with the system being monitored. Physical disk attributes reported include vendor information, device ID, SCSI ID, and size. Logical disk attributes reported include name, size, space allocation, and utilization.

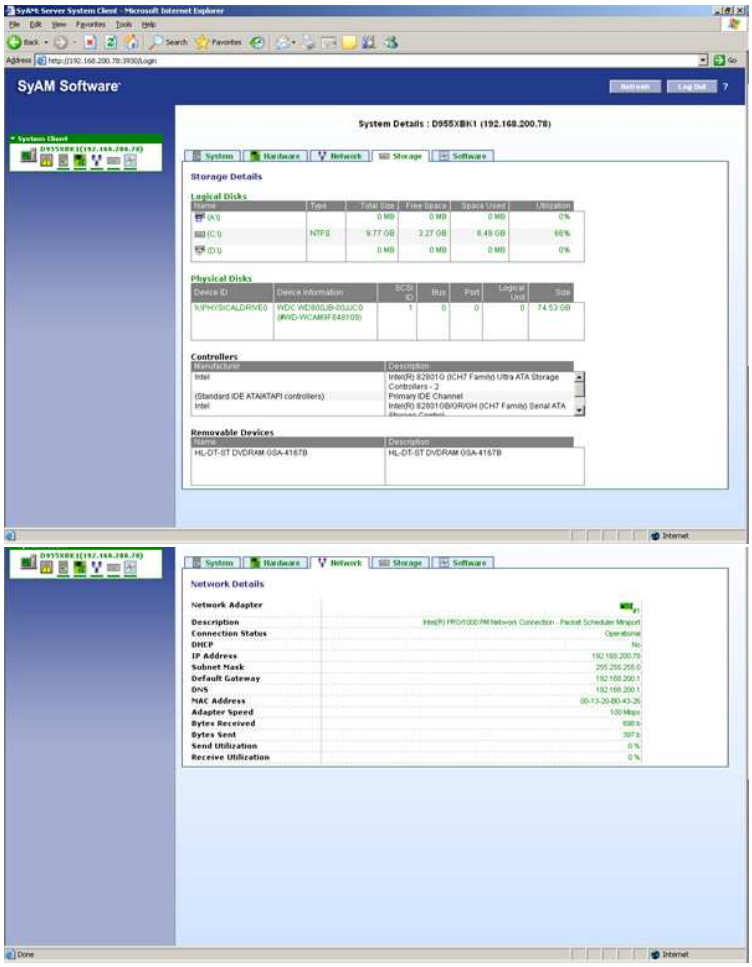


Figure 14: Storage Detail Tab

RAID Management

Server System Client performs integrated monitoring of PCI RAID Controllers. All discovered PCI RAID Controllers that we support will be monitored, and their summary configuration and status displayed under "Managed RAID Controllers" within the Storage tab.

Server System Client will discover RAID Controllers that it can manage only if the required RAID drivers are installed. If a new RAID Controller is installed after Server System Client has been started, then restart the system for it to discover the new Managed RAID Controller.

Please check the release Notes for the list of RAID Controller compatibility for the version of software you are using.

SMART Drive Pre-Failure Monitoring

Directly attached disk drives that are SMART capable are checked daily. Supported disk technologies include P-ATA, S-ATA, SCSI and FC. The administrator can be notified of bad disk drives before they fail and potentially lose data. Notification of a bad SMART status (Pending failure) is done via the notification options configured for the drive.

The Storage Details tab visually shows physical drive status. A physical drive in the warning state (amber colored) is pending failure and has reported a bad SMART status.

RAID Management

(This feature is only available through the System Area Manager)

Managed PCI RAID controllers can be configured with System Area Manager. Navigation begins from the Storage Details tab

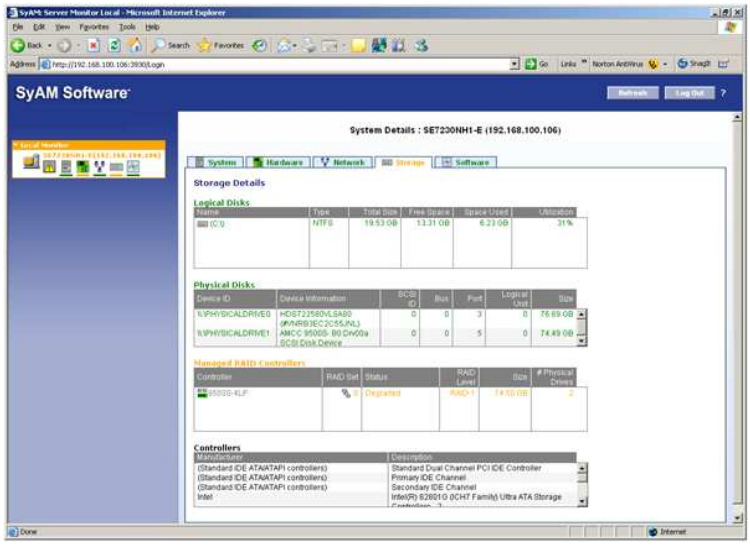


Figure 15: Storage Details – Managed RAID Controllers

Click on the RAID Controller to open up the RAID Controller window.

Please check the www.syamsoftware.com Web Site for RAID Controller Configuration Support.

Managed
RAID
Controller

RAID Controller Details Screen

The RAID Controller screen is divided into 4 parts.

RAID Controller Details – Displays the controller model, firmware version, Cache if present, Number of Bus, ID, BIOS Version, BBU Presence and Max Devices per Buses

RAID Set Details – Displays the current RAID sets configured on this controller, including their description , RAID Set #, and Status (Normal, Init, Rebuild, Degraded, Failed). A RAID Set (also called a RAID Array) appears to the operating system as a physical disk.

Physical Drives – Displays the physical drives connected to the RAID controller, including their location on the BUS, ID, Status, Capacity, Vendor and Model. Physical drives in use by a RAID controller are typically not visible to the operating system.

Available Arrays – Displays the physical arrays defined by the RAID controller. A physical array is a grouping of drives on which RAID Sets are created. The display includes the RAID levels and capacities available for creating additional RAID sets.

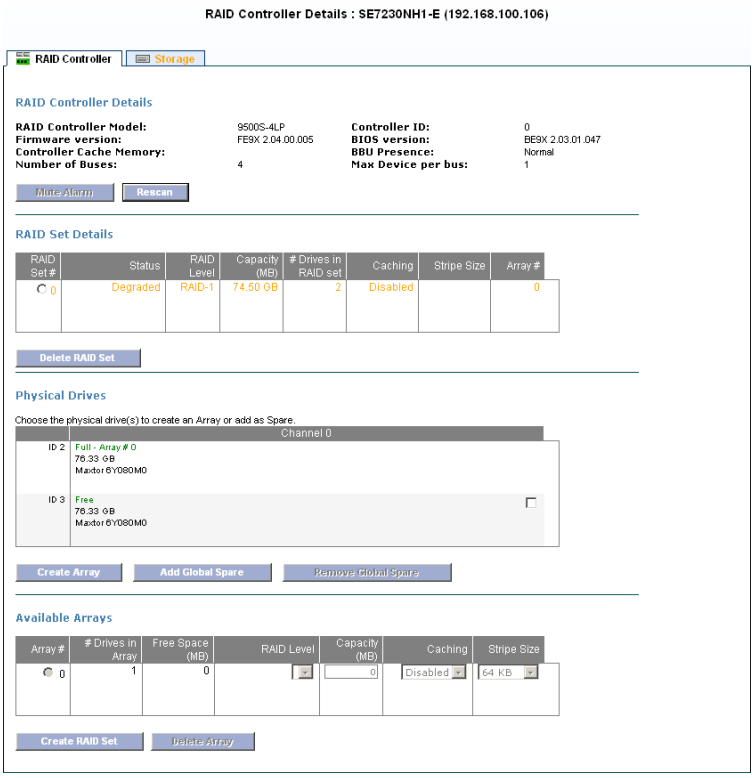

RAID Controller Details : SE7230NH1-E (192.168.100.106)
RAID Controller
Storage
RAID Controller Details
RAID Controller Model: 9500S-4LP
Firmware version: FE9X 2.04.00.005
Controller Cache Memory:
Number of Buses: 4
Controller ID: 0
BIOS version: BE9X 2.03.01.047
BBU Presence: Normal
Max Device per bus: 1
Mute Alarm
Rescan
RAID Set Details
RAID Set # | Status | RAID Level | Capacity (MB) | # Drives in RAID set | Caching | Stripe Size | Array #
0 | Degraded | RAID-1 | 74.50 GB | 2 | Disabled | | 0
Delete RAID Set
Physical Drives
Choose the physical drive(s) to create an Array or add as Spare.
Channel 0
ID 2 Full - Array # 0 76.33 GB Maxtor 6Y080M0
ID 3 Free 76.33 GB Maxtor 6Y080M0
Create Array
Add Global Spare
Remove Global Spare
Available Arrays
Array # | # Drives in Array | Free Space (MB) | RAID Level | Capacity (MB) | Caching | Stripe Size
0 | 1 | 0 | 0 | Disabled | 64 KB
Create RAID Set
Delete Array

Figure 16: RAID Controller Details Screen

Steps in Creating a RAID Set

1. Decide if you will create a RAID Set on an existing Physical Array, or want to first create a new Physical Array for the RAID Set. If you will use an existing Physical Array proceed to step 4.
2. To create a Physical Array, choose the physical drives that you wish to make up the array by clicking on their check box. (Remember only drives not in use in other arrays or as hot spares can be used.)
3. Click on the Create Array button – wait for the screen to update

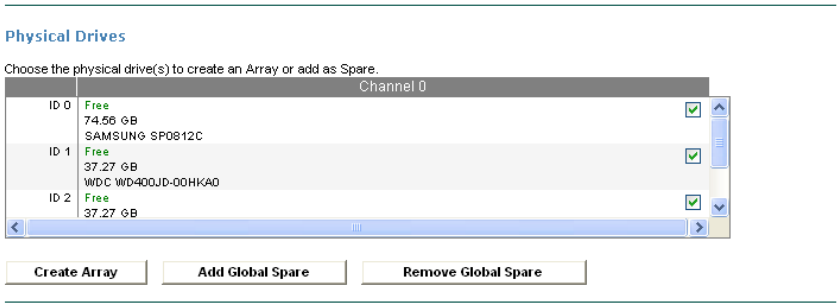


Figure 17: Physical Drives – Choosing drives for the Array

4. Now click on the Physical Array that you wish to create the RAID Set on. ***(****Physical Arrays with no available capacity* ***will not display any available RAID Set configurations.)***

5. Choose the RAID level from the drop down box. Only RAID levels supported for the particular set of drives in the Physical Array will be presented. The maximum capacity available for the selected RAID level is calculated and displayed. You may enter a lower capacity to be used for this RAID Set.

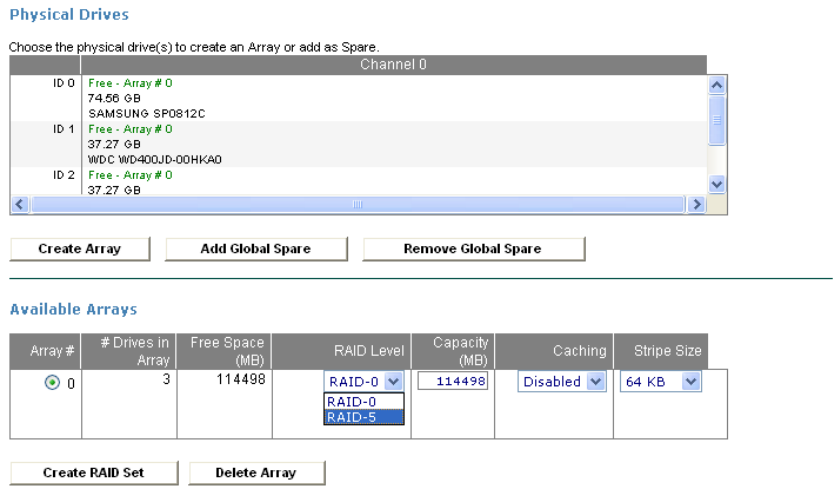
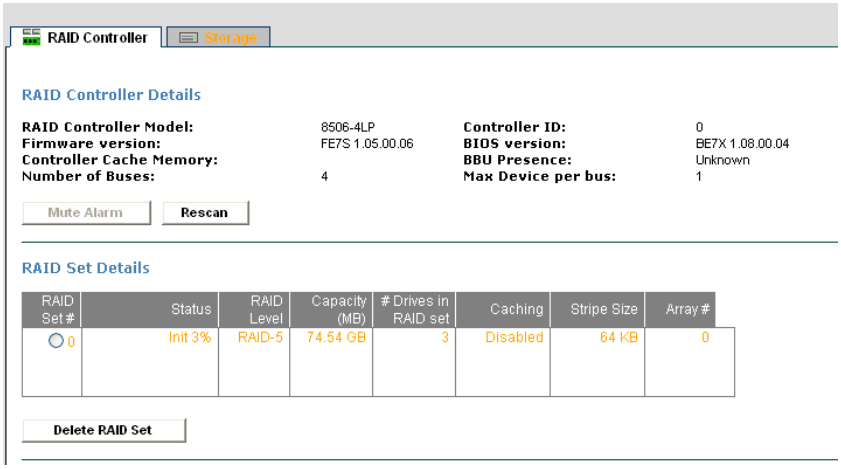


Figure 18: Available Array - Configuring the RAID Set

6. Next choose the Caching policy and stripe size from the drop down boxes.
7. Click the Create RAID Set button to create the RAID Set.
8. The system will now process your configuration and will create the RAID Set. If for any reason the create operation fails, a message will be displayed at the top of the screen explaining the cause for failure.
9. The new RAID Set will now appear under the RAID Set Details

10. If you created a Physical Array in Step 3 and decided not to create a RAID Set on it, you may dismiss it by selecting it and clicking the Delete Array button . You cannot


RAID Controller
Storage
RAID Controller Details
RAID Controller Model: 8506-4LP
Firmware version: FE7S 1.05.00.06
Controller Cache Memory:
Number of Buses: 4
Controller ID: 0
BIOS version: BE7X 1.08.00.04
BBU Presence: Unknown
Max Device per bus: 1
Mute Alarm
Rescan
RAID Set Details
RAID Set # | Status | RAID Level | Capacity (MB) | # Drives in RAID set | Caching | Stripe Size | Array #
0 | Init 3% | RAID-5 | 74.54 GB | 3 | Disabled | 64 KB | 0
Delete RAID Set

delete Physical Arrays that have RAID Sets created on them.

Figure 19: RAID Set Details – Information on Configured RAID Set

Adding/Removing a Global Spare

1. Choose the physical drive that you wish to become a global spare to the RAID Set by clicking on its check box, then click on the Add Global Spare button.
2. To remove a global spare click on the check box next to the drive that is currently displayed as a hot spare, then click the Remove Global Spare button.

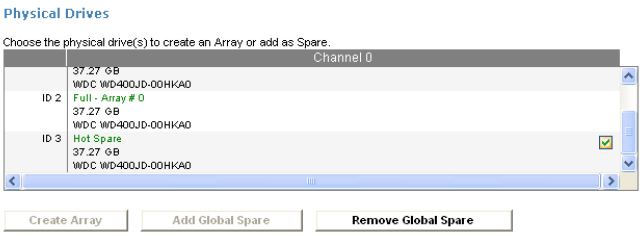


Figure 20: Removing a Hot Spare drive

Click to choose this Hot Spare to be removed.
Then Click th Remove Global Spare button

Deleting a RAID Set

1. *Under RAID Set Details click the radio button next to the RAID Set to delete. Then click on the Delete RAID Set button. Note that when multiple RAID Sets are present on the same Physical Array, only the last RAID Set displays a radio button and may be selected to delete.*

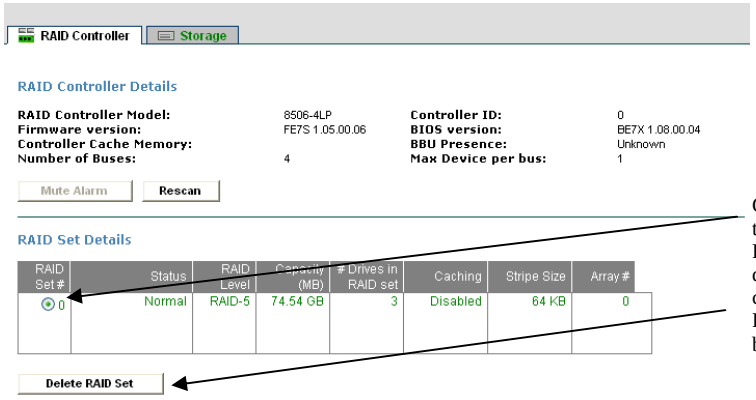


Figure 21: RAID Set Details – Deleting a RAID set

Software Detail Tab

The Software Tab displays detailed information on the processes, services, and applications installed and running on the system being monitored.

End Process – Start/Stop Service

(This feature is only available through the System Area Manager)

The administrator can stop a running process , and start or stop a service of a managed system, without having to physically visit that system. The startup type and current status of each service is displayed.

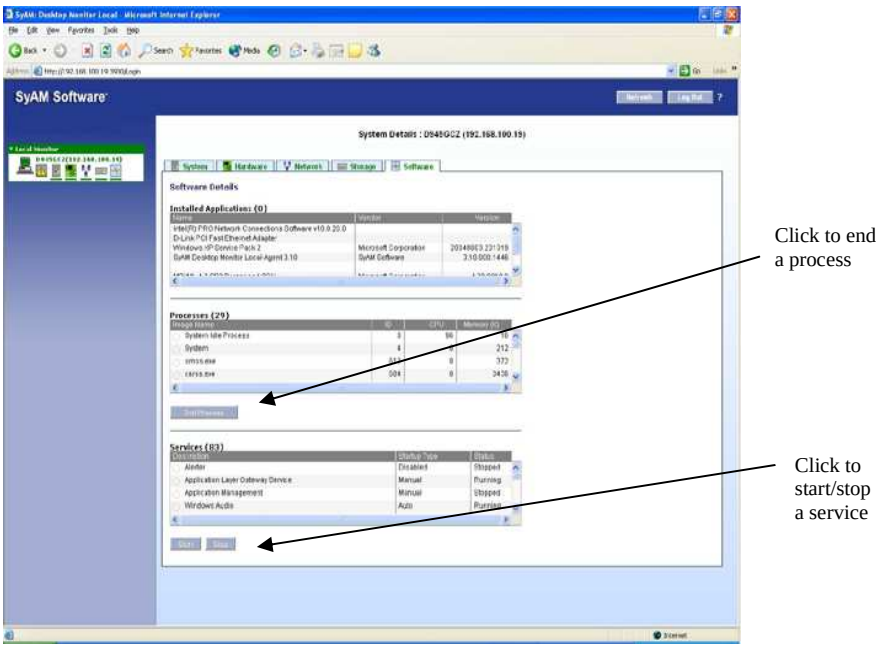


Figure 22: Software Detail Tab

To end a process, chose the process by clicking on the radio button to the left of the Process Name, then click the End Process button .

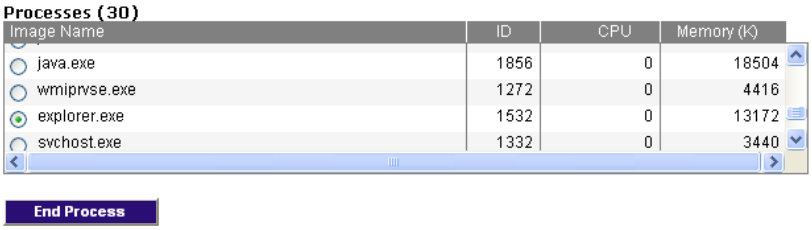
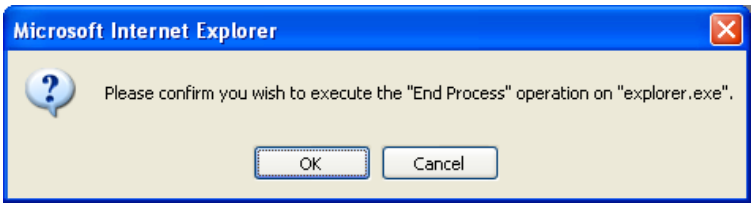


Figure 23: End the Process

Figure 24: Confirm to End the Process



To Start a Service choose the service by clicking on the radio button to the left of the Service Name, then click on the Start button. The service must be in a stopped state in order to be started.

Figure 25: Starting a Service

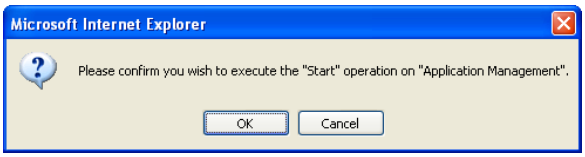

Microsoft Internet Explorer
Please confirm you wish to execute the "Start" operation on "Application Management".
OK
Cancel

Figure 26: Confirm to Start the Service

To Stop a Service choose the service by clicking on the radio button to the left of the Service Name, then click on the Stop button . The service must be in a running state in order to be stopped.

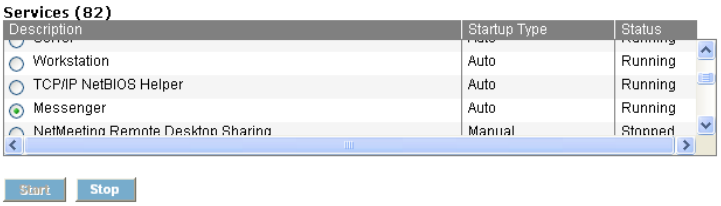


Figure 27: Stopping a Service

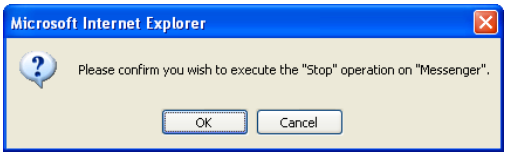


Figure 28: Confirm to Stop the Service

Chapter 4: Configuring System Alerts

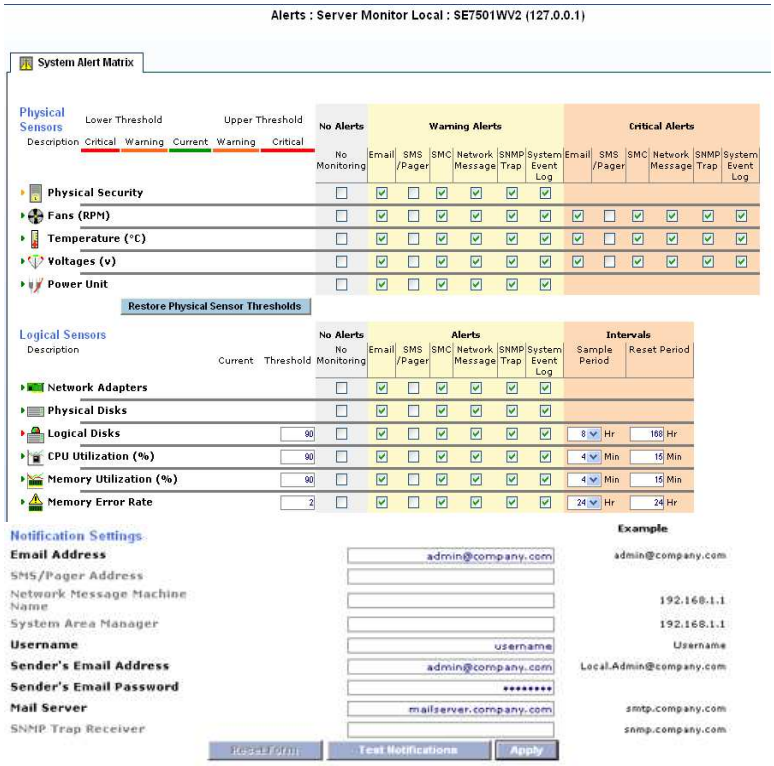
System Client software provides the ability to send alerts via email. System Area Manager software provides a much richer set of alerting features. A whole new hierarchy of centralized alerting is available. And additional alerting features within each managed system are unlocked by using System Area Manager. Users may configure thresholds, and sample/reset periods for each monitored resource. And several new notification methods become available, such as via SNMP Traps or Operating System Event Logs.

System Alert Matrix

The System Alert Matrix provides a detailed, color-coded view of the status of all monitored components in the managed system.

Settings such as notification methods, thresholds, sample periods, etc for each sensor type category are automatically applied to all discovered sensor instances of that type.

Figure 29: System Alert Matrix



Monitored Sensor Types

Physical Sensors

	Security – If/when the system chassis is opened, the intrusion will trigger a sensor alert, provided that the connected board/BIOS support this information reporting.
	Fans – Monitored for rotational speed provided the fan is connected to a board/BIOS that supports the information reporting.
	Voltages – Monitored for the functionality that the connected board/BIOS supports.
	Temperature – Monitored for the functionality that the connected board/BIOS supports.
	Thermal Controlled Fans – Monitored for rotational speed, alerts when the CPU Temperature exceeds the defined threshold and the fan is not spinning. Provided for a defined set of motherboards supporting this feature.
	Redundant Power Loss – Monitors IPMI managed servers and alerts upon when redundant power systems loose their redundancy

Logical Sensors

	Network Adapters – Monitors Ethernet operational state.
	Physical Disk – Monitors the presence and percent usage of a physical disk in the system and/or a RAID Set available to the operating system through a RAID controller.
	Logical Disks – The percent of capacity used by the logical disk formatted and mounted by the operating system is reported. If the disk has not been formatted, it will be reported as a failed disk. Removable Device – Removable devices that are represented to the operating system will be reported as mounted as long as they are present in the system.
	Managed RAID Controller – RAID Controller health.
	Total CPU utilization – Percentage of CPU usage.
	Total Memory utilization – Percentage of Physical and Virtual Memory usage.
	Memory Error Rate – Number of Single- and Multi- Bit errors that have occurred (requires ECC memory and support by the server board)

Notification Settings – Configuring email alerting

Figure 30: Entering Notification Information

Physical Sensor Upper and Lower Thresholds

Each physical sensor instance has its own range of safe operating values with lower and upper warning and critical thresholds. These values are discovered if the hardware platform supports that information, or are calculated from available data.

Physical Sensor Warning and Critical Alerts

Since physical sensors may enter warning or critical health states, separate alerting methods may be configured for each.

Logical Sensor Thresholds

Monitored resources that are not physical sensors are called "Logical Sensors". Each instance of the logical sensor types Logical Disk, CPU Utilization, and Memory Utilization, has a utilization threshold.

Logical Sensor Warning Alerts

Logical sensors, by design, may enter the warning health state but not critical. So there is only a single set of alerting methods available.

Sample Period

CPU and Memory Utilization are gathered several times over a period of time, so that transient spikes are not reported. This time period is configurable by the administrator, and is known as the sample period. The pre-set sample period options are from 4-8 minutes. If 80% of the gathered readings exceed the threshold, a transition to warning state occurs.

The sample period for an instance of Logical Disk that is a removable device (floppy or CD-ROM drive) is similar to that of other sensors. A set of four readings is gathered during the sample period. If the device (floppy disk or CD) is present through all of them, a transition to warning state occurs.

Reset Period

When a logical sensor transitions to a warning health state, an event is raised and alerts are sent according to the Warning Alerts settings. The reset period is the amount of time during which no additional alerts will be issued after the initial alert.

Removing a Sensor Instance From the System Alert Matrix

When a sensor instance, such as a specific logical or physical disk, has been removed from the system, or has otherwise entered a critical state, it is displayed in red and an "X" appears next to it. Click on the "X" to permanently delete this sensor instance from the alert matrix. Only do this if the instance is not being replaced. Once the sensor has been replaced it will automatically be monitored and the new health state will be represented.

Enter the destination email address, the sender's email address, and the mail server hostname or IP address. Enter the user name and password if outgoing email is authenticated. Click the Apply button to save changes. Use the Test Notification button to send a test email, and ensure your configuration is correct.

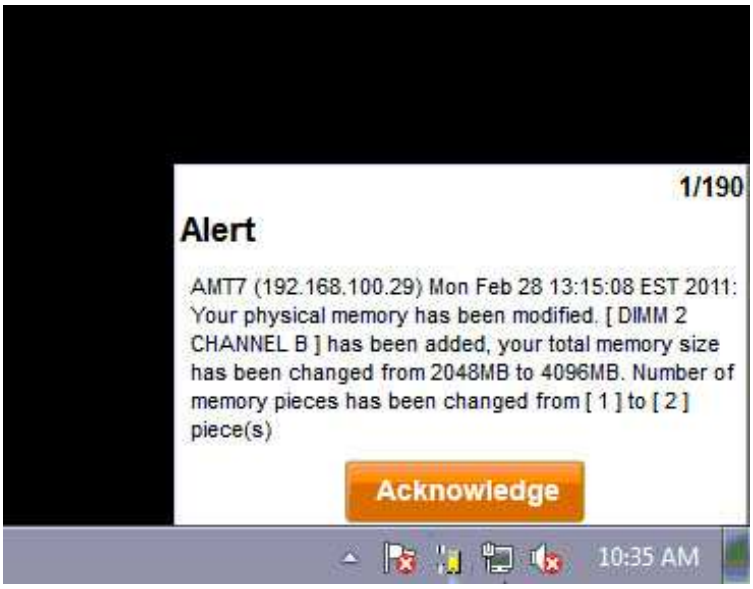
SyAM Alerting Enhancements

(These features are only available through the System Area Manager)

When a system is managed from the System Area Manager, it enables users to modify any of the thresholds, sample periods, reset periods, and notification methods. It also enables alerts to be sent via the other notification methods such as SMS/pager, Local Alerts, send to the System Manager (for it to perform central alerting methods), SNMP Trap, or write the event to the System Event Log.

Local Alerting

Enabling Local Alerts in the System Alert Matrix causes a tray icon to be displayed, and popup windows to appear, on the managed system when an alert is generated.


1/190
Alert
AMT7 (192.168.100.29) Mon Feb 28 13:15:08 EST 2011: Your physical memory has been modified. [DIMM 2 CHANNEL B] has been added, your total memory size has been changed from 2048MB to 4096MB. Number of memory pieces has been changed from [1] to [2] piece(s)
Acknowledge
10:35 AM

Alerts are categorized as asset monitoring events, hardware events, storage events, network events, and performance utilization events.

The user is prompted to acknowledge each alert. When the administrator generates a Local Alert report, each alert shows whether it has been acknowledged, and by which user.

Integration into Enterprise Frameworks

System Area Management (SyAM) MIB

The SyAM MIB must be installed into the Enterprise Framework server before it can decipher traps sent from a managed system.

Please consult your Enterprise Framework application on how to install a 3rd party MIB.

The MIB file is installed in <Installed Directory>/system_monitor/syam.mib.

System Area Management Integration into Microsoft Operations Manager (MOM)

The SyAM Management Pack for Microsoft Operations Manager must be loaded into the MOM server, before it can decipher Windows events written by SyAM Management Agents. Also the MOM agent must be configured on each managed system to forward events to the MOM server.

Please consult your MOM documentation on how to load 3rd party Management Packs into the MOM server, and how to configure the MOM agent.

The MOM Management Pack file is installed in:
<InstalledDirectory>/system_monitor/syam.akm.

System Area Management (SyAM) Integration into Microsoft System Center Operations Manager 2007 (SCOM)

The SyAM Management Pack for Microsoft System Center Operations Manager 2007 must be imported into the SCOM server, before it can decipher Windows events written by SyAM Management Agents. Please consult the SyAM Software Tool Tip “Using the SyAM Events Management Pack” for instructions on installation and configuration.

The SCOM 2007 Management Pack file is installed in:
<InstalledDirectory>/system_monitor/SyAM.Event.Management.Pack.xml.

Chapter 5: Contact Details & Glossary

This chapter contains technical support contact information as well as a glossary.

Contact Details

Contact	product-support@syamsoftware.com
Web	www.syamsoftware.com
Support Information	http://www.syamsoftware.com/
Product Information	http://www.syamsoftware.com/

Glossary

Adding a sensor to the alert matrix

Sensors are automatically monitored, they have their sensor category default notifications applied to them.

Critical Level

The level of the threshold which is operating beyond the normal and warning thresholds.

Current Value

The actual reported sensor reading for the system component on a timed reporting cycle.

From Address

Administrators can define a unique name for the SyAM alerting email address.

Hardware Detail Screen

Information on the system components being monitored, including fans, temperature, voltages, etc.

Hardware Event

When a threshold is met or exceeded by a physical component of the system.

Header Bar

The header bar within this browser contains the **<Logout> <Refresh> <?>** function buttons

Health colors

Green = Fully Functional
Amber = Warning threshold exceeded
Red = Critical Threshold exceeded
Grey = System update pending
Blue = Agent has been manually stopped
Purple = System is no longer responding
Black = System has been shut down

Intervals

Readings on all monitored systems and components are at preset cycles of 60 seconds.

Logical Sensor

Storage, network adapters, removable disk drives, and CPU and memory usage.

Login

Administrators must login using a user name and password that has administrative rights to the machine that is running SyAM software

Lower threshold
The lowest threshold to be alerted upon if it is exceeded.

Network Detail Screen
Information on network adapters and their configuration.

Network Event
Network connectivity is lost.

Notification Settings
Email, SMS/pager, SyAM System Area Manager, Network Messages and SNMP Traps.

Performance utilization event
CPU or memory utilization threshold is met or exceeded.

Physical Sensors
Physical Security, Fans, Temperature, Voltages and Power Unit sensor monitored

Reset period
The frequency of notifications sent after the initial alert has been sent and if the sensor has not been corrected.

Restore Physical Sensor Thresholds
This will reset to the original sensor threshold values when you click on this button.

Sample period
Time that is used to take CPU and Memory utilization samples.

Sensor Status Change back to normal
When a sensor returns back to within its operating threshold range.

SyAM Agent
Non-intrusive monitoring agent configured and managed by the System Area Manager

System Area Manager
Provides monitoring and communications with all managed agents

System Client
Non-intrusive monitoring agent that can be browsed to directly or managed and configured from the System Area Manager

System Client Tree
Browsing directly to a system running System Client.

SMTP address
Mail system address: example: mail.company.com or 192.168.1.100

SNMP Traps
Notification from a system or central manager to an enterprise framework server – Requires System Area Management (SyAM) MIB to be installed on enterprise framework server.

Software Detail Screen

Information on the processes, services, and applications installed.

Storage Detail Screen

Information on physical and logical disks, controllers and removable devices.

Storage Event

Logical disk has reached its utilization threshold, Loss of logical disk, or Loss of Physical disk.

System Alert Matrix

Interface to configure sensor thresholds and notification options.

System Alert Notification Settings

Notification and configuration details for the System Alert matrix.

System Detail Screen

Information on the system's configuration, BIOS, operating system, location, memory, CPU, etc.

Upper Threshold

The highest threshold to be alerted upon if exceeded.

User name and Password for outgoing Authentication

Enter the administrator user name and password (if the outgoing email system requires authentication)

Warning Level

The level of the threshold that is operating between the normal and critical thresholds.

Welcome

Displays the Revision and contact details for the product.

Chapter 6: System Area Manager Software

This chapter contains information on the enhancements available with a System Area Manager

Differences between System Client and SyAM System Area Manager.

The following table lists the features available when managing systems from a System Area Manager vs managing systems locally (with System Client – Server/Desktop/Notebook).

Feature	System Client	System Area Manager
System Level Alerting		
• Email	■	■
• SMS/Pager		■
• SyAM Central Event Log		■
• SNMP (Enterprise Managers)		■
• System Event Log (MOM)		■
• Thresholds		■
• Sample Periods		■
• Reset Periods		■
Centralized Alerting		
• Email		■
• SMS/Pager		■
• SNMP		■
Centralized Monitoring		
• System Absence		■
• Platform Event Traps (PETs)		■
• Asset Changes		■
Remote Management		
• Graceful Shutdown/Restart		■
• Remote Console (KVM)		■
• IPMI Over LAN (Power on/off)		■
• IPMI Over LAN (Event Log)		■
• AMT Remote Power functions		■
• AMT Remote Control		■
• AMT System Defense		■
Storage Management		
• Logical Utilization Monitoring	■	■
• Removable Device Monitoring	■	■
• RAID Monitoring	■	■
• RAID Configuration / Management		■
Software Management		
• End Process		■
• Start/Stop Service		■
Power Management		
• Power Policy Configuration		■
• Power shutdown/Restart Scheduler		■
Event Logging		
• Monitored event logging		■
• Performance Snapshot Event		■
• Filtering / Sorting		■
• Output to file		■
Asset / Inventory Reporting		
• Summary		■
• Detailed		■
• CSV / HTML / XML output		■